STENTS: DRUG-ELUTING

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**TCT-547**

Efficacy and safety of platinum-chromium everolimus-eluting stents compared with other second-generation drug-eluting stents.  
Meta-analysis from 5 randomized trials including 7,896 patients  
Raul Moreno,1 Hyo-So Kim,2 Clemens von Birgelen,3 Gregg W. Stone,4 Seung-Jung Park,5 Jose M. De la Torre Hernandez,6 Katie Qureshi,7 Keith D. Dawkins5  
1University Hospital La Paz, Madrid, Madrid; 2Seoul National University College of Medicine, Seoul, Korea, Republic of; 3Thoraxcentrum Twente & University of Twente, Enschede, Netherlands; 4Columbia University Medical Center and the Cardiovascular Research Foundation, New York, United States; 5Asan Medical Center, Seoul, Korea, Republic of; 6Hospital Marques de Valdecilla, N/A; 7Boston Scientific Corporation, Natick, MA

**BACKGROUND** Platinum-chromium alloy has been recently incorporated to the drug-eluting stent platforms, mainly everolimus-eluting stents (Promus Element -PE- stent). The objective of the study was to evaluate the efficacy and safety of PE in comparison with other second-generation drug-eluting stents.

**METHODS** A meta-analysis from 5 published randomized trials that compared PE with other second-generation drug-eluting stents was performed. Overall, 7,896 patients were included: 3,330 allocated to PE, and 4,566 to other stents (3,415 to cobalt-chromium everolimus-eluting, 906 to zotarolimus-eluting, and 245 to biolimus-eluting stent). In all trials, planned follow-up was 12 months.

**RESULTS** Clinical events at 12 months were infrequent (target lesion stent). In all trials, planned follow-up was 12 months. P E , and 4,566 to other stents (3,415 to cobalt-chromium everolimus-eluting, 906 to zotarolimus-eluting, and 245 to biolimus-eluting stent). In all trials, planned follow-up was 12 months.

**CONCLUSIONS** Clinical outcomes of patients treated with the platinum-chromium everolimus-eluting stent Promus Element is excellent, with rates of target lesion revascularization and stent thrombosis at 1 year of 1.8% and 0.46%, respectively.

**CATEGORIES CORONARY:** Stents: Drug-Eluting

**KEYWORDS** Drug-eluting stent, Myocardial infarction, acute

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**TCT-553**

Long Term Outcomes After Primary Percutaneous Coronary Intervention: Evidence from a Network Meta-Analysis of Trials in ST-Segment Myocardial Infarction  
Femi Philip,1 Ravi S. Kahlon,2 Benjamin Stripe,2 Susan Smith,3 Jeffrey Southard1  
1UC Davis, Sacramento, CA; 2UC Davis Medical Center, Sacramento, CA; 3University of California, Davis, Sacramento, CA; 4University of California Davis, Sacramento, CA

**BACKGROUND** The relative safety of drug-eluting stents (DES) and bare-metal stents (BMS) in primary percutaneous coronary intervention (PCI) continues to be debated. We compared the long-term clinical outcomes between 2nd generation DES and BMS for primary percutaneous coronary intervention (PCI) using network meta-analysis.

**METHODS** Randomized controlled trials comparing stent types (1st generation DES with BMS and 2nd generation DES) from the databases and proceedings of the international meetings. Information about study design, inclusion criteria and sample characteristics were extracted. Network meta-analysis was used to pool direct (comparison of 2nd generation DES to BMS) and indirect evidence (1st generation DES with BMS and 2nd generation DES) from the randomized trials.

**RESULTS** 12 trials comparing all stents types including 9673 patients randomly assigned to treatment groups were analyzed. Second generation DES was associated with significantly lower incidence of definite or probable ST (OR 0.59, CI 0.39-0.89), MI (OR 0.59, 95% CI 0.39-0.89) and TVR at 3 years (OR 0.50: CI 0.31-0.81) compared to BMS. In addition, there was a significantly lower incidence of MACE and stent thrombosis in the BMS group at 3 years. There was a non-significant reduction in the overall and cardiac mortality [OR 0.83, CI (0.60-1.14), OR 0.88, CI (0.61-1.28)] with the use of 2nd generation DES vs. BMS at 3 years.

**CONCLUSIONS** Network meta-analysis of randomized trials of primary PCI demonstrated lower incidence of MACE, MI, TVR and stent thrombosis with 2nd generation DES compared to BMS. Use of second generation DES for PCI in STEMI was not associated with adverse events compared to BMS.

**CATEGORIES CORONARY:** Stents: Drug-Eluting

**KEYWORDS** Drug-eluting stent, Myocardial infarction, acute

**TCT-554**

Titratable drug delivery from drug filled stents  
Abraham R. Tzafriri,1 Peter Markham,1 Justin Gosgharian,2 Daniel Schulz-Jander,2 Stefan Tuney,2 Robert J. Melder,2 Gregg W. Stone,1 Elazer R. Edelman2  
1CBSET Inc., Lexington, MA; 2Medtronic PLC, Santa Rosa, CA; 3Columbia University Medical Center and the Cardiovascular Research Foundation, New York, NY; 4IMES, MIT & Harvard Medical School, Cambridge, MA

**BACKGROUND** Polymer-free controlled drug elution has proved challenging for surface-modified drug eluting stents. Drug-filled
CONCLUSIONS In this pooled data analysis, no negative impact of stent oversizing was documented with respect to procedural and long-term clinical outcomes. Clinical adverse events appeared to be primarily related to vessel size itself, rather than the selection of a stent larger than the vessel size. In particular, small vessels treated with a smaller stent were associated with greater adverse events, suggesting that aggressive selection of larger stents with appropriate attention to edge effects may optimize long-term outcomes even in DES implantation.

CATEGORIES CORONARY: Stents: Drug-Eluting

KEYWORDS Drug-eluting stent, Stent implantation

TCT-556

One-year Outcome of a Prospective Trial Stopping Dual Antiplatelet Therapy at 3-Month after Everolimus-eluting Cobalt-chromium Stent Implantation: ShortT and Optimal duration of Dual AntiPlatelet Therapy after everolimus-eluting cobalt-chromium stent (STOPDAPT) trial

Masahiro Natsuaki,1 Takeshi Morimoto,2 Erika Yamamoto,3 Hiroki Shiomi,1 Yutaka Furukawa,4 Mitsuru Abe,3 Koichi Nakao,6 Tetsuya Ishikawa,7 Kazuya Kawai,8 Kei Yunoki,9 Shogo Shimizu,10 Masaharu Ako,10 Shinji Miki,10 Masashi Yamamoto,17 Hisayuki Okada,3 Kozo Hoshino,1 Kazushige Kadota,16 Yoshiihi Morino,17 Keiichi Igarashi,17 Kengo Tanabe,17 Ken Kozuma,17 Takeshi Kimura1

1Saiseikai Fukuoka General Hospital, Fukuoka, Japan; 2Hyogo College of Medicine, Nishinomiya, Hyogo; 3Kyoto University Graduate School of Medicine, Kyoto, Japan; 4Kobe City Medical Center General Hospital, Kobe, Japan; 5Kyoto Medical Center, Kyoto, Kyoto; 6Saiseikai Kumamoto Hospital Cardiovascular Center, Kumamoto, Japan; 7Saitama Cardiovascular and Respiratory Center, Kumagaya, Japan; 8Chikamori Hospital, Kochi, Japan; 9Osaka City General Hospital, Osaka, Japan; 10Kamakura City Hospital, Kamakura, Japan; 11National Hospital Organization Kyoto Medical Center, Kyoto, Japan; 12Mitsubishi Hospital, Kyoto, Tokyo; 13Kimitsu Central Hospital, kisarazu, Chiba-ken; 14Seiri Hamamatsu General Hospital, Hamamatsu-shi, Shizuoka prefecture; 15Nagai Hospital, Tsu, Japan; 16Kurashiki Central Hospital, Kurashiki, Japan; 17Iwate Medical University, Morioka, Iwate; 18Hokkaido Social Insurance Hospital, Sapporo, Japan; 19Mitsui Memorial Hospital, Tokyo, Japan; 20Teikyo University Hospital, Tokyo, Japan

everolimus). The degree of stent oversizing (%SO) to angiographic reference vessel diameter (RVD) was calculated as (nominal stent diameter - RVD) / RVD x 100 (%). Post-procedural stent expansion was calculated by IVUS as minimum stent area divided by the average reference lumen area. Clinical outcomes including target lesion revascularization (TLR) and stent thrombosis were followed for 1 year.

RESULTS Overall, smaller pre-procedural RVD was linearly associated with higher %SO (r<0.670, p<0.001). Significant stent oversizing (defined as %SO<10%) was found in 82% of small RVD (<2.75 mm) group and 33% of larger RVD (≥2.75 mm) group. The significant oversizing group underwent less post-dilatation (p<0.002), but achieved greater stent expansion (p<0.001) and less ISA (p<0.001) without increase of edge dissection after procedure. When stratified by vessel size and stent oversizing (no difference in DES type among the 4 groups, p=0.525), progressive decreases of angiographic binary restenosis and TLR rates (left figure) were found in favor of larger vessel size and oversized stents. Stent thrombosis was observed in most of the small RVD vs %SO group compared with the other subgroups (p=0.040) (right figure).